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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/522,157
Filing Date: January 24, 2005
Appellant(s): KIBLER ET AL.

Monica Chin Kitts
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 18, 2009 appealing from the Office action mailed December 19, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 8,9,23, and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sievernich et al. (CA 2,334,955).

Applicant's Invention

Applicant claims:

A synergistic herbicidal mixture comprising

A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole

and

B) two herbicides selected from the group consisting of imazapyr, imazaquin, imazamethabenz-methyl, imazamox, imazapic and imazethapyr;

and,

C) a triazine selected from the group consisting of ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine and trietazine

or their environmentally compatible salts;

in a synergistically effective amount.

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Applicant also claims:

A method of controlling undesired vegetation, comprising applying simultaneously or separately to said vegetation, the environment of said vegetation and/or seeds of said vegetation

A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole;

and

B) two herbicides selected from the group consisting of imazapyr, imazaquin, imazamethabenz-methyl, imazamox, imazapic and imazethapyr;

and

C) a triazine selected from the group consisting of ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine and trietazine

or their environmentally compatible salts;

in a synergistically effective amount.

***Determination of the scope and the content of the prior art
(MPEP 2141.01)***

Sievernich et al. teach a synergistic herbicidal mixture comprising at least one 3-heteroxyxlyl-substituted benzoyl derivative, or its environmentally compatible salts.

Sievernich et al. teach **4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole** as a most particularly preferred 3-heteroxyxlyl-substituted benzoyl derivative (page 20, lines 19-21, claims 1,16-26, and

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31 ,component A of instant application). Said synergistic herbicidal mixture also comprises a synergistically effective amount of at least one herbicidal compound from the group consisting of acetyl-CoA carboxylase inhibitors, acetolactate synthase inhibitors, amides, auxin herbicides, auxin transport inhibitors, carotenoid biosynthesis inhibitors, enolpyruvylshikimate 3-phosphate synthase inhibitors, glutamine synthase inhibitors, lipid biosynthesis inhibitors, mitosis inhibitors, protoporphyrinogen IX oxidase inhibitors, photosynthesis inhibitors, synergists, growth substances, cell wall biosynthesis inhibitors or a variety of other herbicides (page 1, lines 4-40 , page 1a, lines 1-6, page 2, lines 1-6 and claim 1 of reference, claims 1,15-17 and 20 , component C1-C16 of instant application) Specifically, Sievernich et al. teach the use of **imazapyr**, **imazaquin**, **imazamethabenz**, **imazethapyr** (page 28, line 18, claims 1,8,9,16-26 and 31, component B of instant application), and **atrazine** (page 84, lines 11,12, and 29, claims 21-26 component C of instant application). In a further particular embodiment, Sievernich et al. teach a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, **two herbicidal compounds** selected from the group consisting of acetyl-CoA carboxylase inhibitors, acetolactate synthase inhibitors, amides, auxin herbicides, auxin transport inhibitors, carotenoid biosynthesis inhibitors, enolpyruvylshikimate 3-phosphate synthase inhibitors, glutamine synthase inhibitors, lipid biosynthesis inhibitors, mitosis inhibitors, protoporphyrinogen IX oxidase inhibitors, photosynthesis inhibitors, synergists, growth substances, cell wall biosynthesis inhibitors or a variety of other herbicides (page 34, lines 42-46).

Sievernich et al. teach that as a rule, the mixture comprises components A and B in such weight ratios that the synergistic effect takes place(ratios of components A and C of the instant application) in the mixture preferably range from 1:0.002 to 1:800 (page 38, lines 20-24). Sievernich et al. teach, in particular, that the mixture comprise components A and B in a weight ratio (ratios of components A and B of the instant application) in the mixture range from 1:0.004 to 1:106 (page 39, lines 13-40).

Sievernich et al. further teach that the herbicidal compositions have a herbicidally active amount of a synergistic herbicidal mixture and at least one liquid and/or solid carrier and if desired, at least one surfactant (page 2, lines 8-11, claims 29 and 30, solid and/or liquid carrier and surfactant, instant invention).

Sievernich et al. also teach that their invention relates to processes for preparation of said synergistic herbicidal mixtures and to a method of controlling undesirable vegetation (page 2, lines 13-15, process of preparation and method of controlling undesired vegetation of instant application). Sievernich et al. teach that the active ingredients of components A and B can be formulated jointly, but also separately, and/or applied to the plants, their environment and/or seeds jointly or separately (page 37, lines 31-33, applied to vegetation and/or seeds of instant application). Sievernich et al. teach that it is preferable to apply the active ingredients simultaneously, but it is possible to apply them separately (page 37, lines 33-35, claim 34, applied simultaneously or in separately of the instant application). Sievernich et al. further teach the mixtures can be applied pre-or post- emergence and that in the case of post-emergence treatment of the plants (page 38, lines 1-2), the herbicidal compositions

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according to the invention are preferably applied by foliar application (page 38, lines 11-13, claim 32 of Sievernich et al., instantly claimed method wherein herbicidal composition is applied to leaves).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Sievernich et al. is that Sievernich et al. do not expressly teach a specific synergistic herbicidal combination comprising at least 4 components or active ingredients.

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Sievernich et al. to arrive at a synergistic herbicidal mixture comprising at least four components.

Although Sievernich et al. do not teach a synergistic herbicidal mixture with a fourth active ingredient, it would be obvious to one of ordinary skill in the art to devise a synergistic herbicidal mixture comprising 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, and at least two herbicidal compounds selected from imazapyr, imazaquin, imazamethabenz, and imazethapyr as taught by Sievernich et al. and to add an additional component C. . A composition

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that consists of the same components will possess the same properties and therefore lead to identical, desired results. One would be motivated to make this combination with the expected benefit of having a taught synergistic herbicidal mixture with enhanced effectiveness.

One of ordinary skill in the art would have been motivated to do this because the references are directed a synergistic herbicidal mixture and it is obvious to one of ordinary skill in the art to combine the combinations. "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

(10) Response to Arguments

Appellant asserts that there are several significant differences between Sievernich et. al. and the present invention:

(1) Appellant asserts that Sievernich et al. do not teach herbicidal mixtures comprising two imidazolinone compounds. Appellant argues that the only specific disclosure of a mixture comprising an imidazolinone compound in Tables 11 and 12 disclose as

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component A) 4-[2- methyl-3-(4,5- dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-l-methyl-6-hydroxy-1 H- pyrazole and as component B) an imidazolinone compound, i.e. imazapyr. Unlike the present invention, Applicant argues that Sievernich et al. does not specifically disclose the use of two imidazolinone compounds.

Respectfully, the Examiner cannot agree. Sievernich et al. do specifically claim a synergistic mixture with an imidazoline compound which is selected from a group of about 41 different herbicidal compounds (see page 88, claims 9 and 13 of Sievernich et al.). Thus, this specific claimed group is very narrow in range and it would therefore be common to one of ordinary skill in the art to arrive at a synergistic mixture comprising component A) 4-[2- methyl-3-(4,5- dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-l-methyl-6-hydroxy-1 H- pyrazole and two components selected from the instantly claimed imidazoline compounds imazapyr, imazaquin, imazamethabenz, and imazethapyr.

(2) Appellant asserts that Sievernich et al. disclose specific mixtures with other imidazolinone compounds shown in tables 13-16. Appellant argues that tables 13-16 of Sievernich et al. cannot be used to reasonably predict the synergistic effect achieved as in the present invention because the mixtures comprised in tables 13-16 of Sievernich et al. are combinations that are different than instantly claimed.

Respectfully, the Examiner cannot agree. When considering a prior art reference, the whole reference including the examples is considered. Sievernich et al. teach the use of **imazapyr, imazaquin, imazamethabenz, imazethapyr** (page 28, line 18,

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component B of instant application) and **atrazine** (page 84, lines 11, 12, and 29, component C of instant application) **in a synergistic combination** with at least one 3-heterocyclyl-substituted benzoyl derivative, or its environmentally compatible salts. Sievernich et al. additionally teach **4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-benzoyl)-1-methyl-5-hydroxy-1H-pyrazole** as a most particularly preferred 3-heterocyclyl-substituted benzoyl derivative (page 20, lines 19-21, claims 1,9 and 16-26, and 31 ,component A of instant application).

(3) Appellant asserts that Sievernich et al. discloses ternary mixtures comprising two components B) only in generic terms with no specific examples. Appellant argues that Sievernich et al. describes binary mixtures comprising as component B) imidazolinone compounds, indicating mixtures with individual compounds only. Appellant argues that there is no suggestion to add a second imidazolinone compound to these synergistic mixtures or that the addition of a second imidazolinone will lead to a composition with increased synergistic activity.

Respectfully, the Examiner cannot agree. Sievernich et al. do teach, in a further particular embodiment, a synergistic herbicidal mixture comprising as component A, a 3-heterocyclyl-substituted benzoyl derivative and as component B, **two herbicidal compounds** (page 34, lines 42-46). Specifically, Sievernich et al. claim a synergistic mixture with **at least one compound** which is selected from a group of about 41 different herbicidal compounds which includes the instantly claimed imidazoline compounds: **atrazine, imazapyr, imazaquin, imazamethabenz, imazethapyr** (see

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page 88, claims 9 and 13 of Sievernich et al.). Thus, one of ordinary skill in the art is directed to add more than one compound and can arrive at a composition comprising atrazine + two herbicides selected from imazapyr, imazaquin, imazamethabenz and imazethapyr as instantly claimed.

(4) Appellant asserts that Sievernich et al. does not suggest or disclose quaternary mixtures at all.

Respectfully, the Examiner cannot agree. Sievernich et al. teach a synergistic herbicidal mixture comprising instant component A and component B, **two herbicidal compounds** (see page 34, lines 42-end). Thus, the prior art teaches synergy using 3 herbicidal compounds and one of ordinary skill in the art would expect to have a synergistic effect with the addition of a fourth herbicidal compound.

In summary, the Examiner can only conclude that in the case presented here, the answer to the question as to "whether the improvement is more than the predictable use of prior art elements according to their established functions" is no. (MPEP 2141[R-6]). All the elements claimed are also known in the art and would be expected to function in the same way. All Applicant has done is assemble known elements in the art into one composition. This is relevant to commercial success not invention. The fact that a combination has filled a long-felt want and has enjoyed commercial success will not, without invention, make the combination patentable. (See *ANDERSON'S-BLACK ROCK, INC., Petitioner, v. PAVEMENT SALVAGE CO.*, U.S.P.Q. 673, 396 U.S. 57, 90

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S.Ct. 305, 24 L.Ed.2d 258, 163). Appellant has argued synergy. However, a synergistic combination of 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, and at least two herbicidal compounds selected from imazapyr, imazaquin, imazamethabenz, and imazethapyr, and a fourth herbicidal compound is disclosed or suggested in Sievernich et al.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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